

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P26788A PCT	<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> FOR FURTHER ACTION </div> <div style="width: 60%;"> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) </div> </div>	
International application No. PCT/US03/22893	International filing date (day/month/year) 21 July 2003 (21.07.2003)	Priority date (day/month/year) 08 July 2003 (08.07.2003)
International Patent Classification (IPC) or national classification and IPC IPC(7): C08K 7/04, 3/40, 5/01; C08J 11/04; B32B 17/04; B01B 3/44 and US Cl.: 523/204, 207, 217; 264/45.3, 172.12, 210.6		
Applicant RUTGERS, THE STATE UNIVERSITY		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u> </u> sheets.</p> <p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application 		
Date of submission of the demand 09 February 2004 (09.02.2004)	Date of completion of this report 18 August 2004 (18.08.2004)	
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 60%;"> James Seidleck Telephone No. 571-272-1700 </div> <div style="width: 35%; text-align: right;"> Jean Proctor Paralegal Specialist </div> </div>	

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US03/22893

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed.
- ☒ the description:
pages 1-9 _____ as originally filed
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.
- ☒ the claims:
pages 10-12 _____, as originally filed
pages NONE _____, as amended (together with any statement) under Article 19
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.
- ☒ the drawings:
pages 1-4 _____, as originally filed
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.
- ☐ the sequence listing part of the description:
pages NONE _____, as originally filed
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/fig 4

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/22893

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-20</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-20</u>	NO
Industrial Applicability (IA)	Claims <u>1-20</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-20 lack novelty and an inventive step under PCT Article 33(2)-(3) as being anticipated by NOSKER et al Patent 5,789,477. Nosker discloses a composite building material comprising high density polyethylene (HDPE) and coated fibers with a thermoplastic polymer material such as polypropylene, polyethylene, polystyrene and HDPE, column 2, lines 10-19, column 4, lines 8-9, 24 and 64-67. The plastic composite can include up to about 20% by weight of polystyrene, column 4, line 24. The plastic composite building material can be used in the construction of railroad ties, column 3, line 32. The plastic composite railroad ties meet the mechanical criteria such as a compressive modulus of at least about 170,000 psi along the tie's axis and a compressive strength of about 3,900 and 3,6000, column 6, lines 52-54 and column 8, Table 2, required in the present claim 20. The contents of the ingredients in the chemical formulation of the plastic composite in NOSKER invention are within the ranges of the ingredients specified in the present claims. Using the plastic building material in NOSKER invention for making the structure such as an I-Beam, C-Beam, a T-Beam, a planar modular plastic structural composite and a bridge constructed from the I-Beam in the present claims would be inherent to the plastic composite building material such as a railroad tie having the same mechanical characteristics requiring in the present claims. Nothing in the present claims defines particular strengths of a plastic composite material over the reference although uses at least a portion of polymer as a recycled material. One of ordinary skill in the art would expect identical results unless shown other use. That is the definition of thermoplastic which is moldable by heat, pressure or both and shaped into a desired configuration.

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

----- NEW CITATIONS -----